

In re Patent Application of:
BOUCHE ET AL.
Serial No. 10/729,827
Filing Date: December 5, 2003

In the Claims:

Claims 1-15 (Cancelled).

16. (Previously Presented) A method for attaching a first element to a second element, the first element having a surface portion covered with a layer of silicon and the second element having a surface portion covered with a layer of nickel, the method comprising:

applying pressure so that the surface portions of the first and second elements are in contact with one another, with a roughness between the surface portions being less than about 1 μm ; and

heating the first and second elements at a temperature greater than 250°C.

17. (Previously Presented) A method according to Claim 16, wherein the first and second elements form part of a microsystem.

18. (Previously Presented) A method according to Claim 16, wherein the first and second elements are heated at a temperature less than to 400°C.

19. (Previously Presented) A method according to Claim 16, wherein the first and second elements are heated for at least 5 minutes.

20. (Previously Presented) A method according to Claim 16, wherein the first and second elements are heated for at least 20 minutes.

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21. (Previously Presented) A method according to Claim 16, wherein the heating results in a bonding layer being formed at an interface between the first and second elements, the bonding layer comprising silicon and nickel and having a thickness of about 1 μm .

22. (Previously Presented) A method according to Claim 16, wherein the second element further comprises a layer of silicon adjacent the layer of nickel.

23. (Previously Presented) A method according to Claim 16, wherein the first element further comprises a layer of nickel adjacent the layer of silicon.

24. (New) A method according to Claim 16, wherein the first element is configured as an encapsulating cover; and wherein the second element comprises a resonator supported by a Bragg mirror that includes the layer of nickel between upper and lower material layers; the method further comprising the following before the first and second elements are placed in contact with one another:

removing a portion of the upper material layer surrounding the resonator for exposing the layer of nickel; and

positioning the encapsulating cover over the resonator so that after applying the pressure and heating, the resonator is sealed.

25. (New) A method according to Claim 24, wherein

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the resonator is hermetically sealed.

Claims 26-50 (Cancelled).